

SECOND REVISED LIST OF NEW ENGLAND
HEPATICAE.¹

ALEXANDER W. EVANS.

IN 1903 the writer² published a preliminary list of New England Hepaticae, in which 123 species were reported. Of these, 75 were accredited to Maine, 81 to New Hampshire, 67 to Vermont, 76 to Massachusetts, 65 to Rhode Island, 94 to Connecticut, and 31 to all six of the New England States. From 1902 to 1912 a number of noteworthy species were discussed in this journal in a series of Notes on New England Hepaticae, many of the species representing additions to the flora. This series comprised ten numbers, the first appearing in November, 1902, and the last in November, 1912. In 1913 the writer³ published a Revised List of New England Hepaticae, in which much of the information found in these Notes was incorporated. In this list 177 species were reported, 123 being accredited to Maine, 130 to New Hampshire, 109 to Vermont, 97 to Massachusetts, 77 to Rhode Island, 134 to Connecticut, and 53 to all six states.

Since the appearance of the Revised List the series of Notes has been continued, seven additional numbers having been published, as follows: the eleventh in April, 1914 (**16**: 62-76); the twelfth in June, 1915 (**17**: 107-120); the thirteenth in April and May, 1916 (**18**: 74-85, 103-120. *pl.* 120 + *f.* 1-40); the fourteenth in December, 1917 (**19**: 263-272); the fifteenth in September, 1919 (**21**: 149-169. *pl.* 126 + *f.* 1-14); the sixteenth in December, 1921 (**23**: 281-284); and the seventeenth in May and June, 1923 (**25**: 74-83, 89-98). In these Notes considerable new information regarding the distribution of the New England species is given, and this is included in the Second Revised List found below. As in the preceding lists the sign + indicates that an herbarium specimen has been seen, the sign — that a printed record has been found. In accordance with the prevailing views on the classification of the Hepaticae more families are recognized in the new list than in the earlier lists. Of these families the first four belong to the order Marchantiales, the next eleven to the Jungermanniales, and the last to the Anthocerotales.

¹ Contribution from the Osborn Botanical Laboratory.

² Preliminary Lists of New England Plants,—XI, Hepaticae. *RHODORA* **5**: 170-173. 1903.

³ *RHODORA* **15**: 21-28. 1913. Full references to the first ten numbers of the Notes are given here.

	Me.	N. H.	Vt.	Mass.	R. I.	Conn.
RICCIACEAE.						
<i>Riccia arvensis</i> Aust.	+	+	+	+	—	+
“ <i>Austini</i> Steph.					—	+
“ <i>Beyrichiana</i> Hampe				+		+
“ <i>crystallina</i> L.			+	+		+
“ <i>dictyospora</i> M. A. Howe						+
“ <i>fluitans</i> L.	+	+	+	+	+	+
“ <i>Frostii</i> Aust.			+			
“ <i>hirta</i> Aust.						+
“ <i>membranacea</i> Lindenb. & Gottsche						+
“ <i>sorocarpa</i> Bisch.				+		+
“ <i>Sullivantii</i> Aust.	+	+	+	+	+	+
<i>Ricciocarpus natans</i> (L.) Corda	+	+	+	+	+	+
SAUTERIACEAE.						
<i>Clevea hyalina</i> Lindb.			+			
REBOULIACEAE.						
<i>Asterella tenella</i> (L.) Beauv.	+	+	+	+	+	+
<i>Grimaldia fragrans</i> (Balb.) Corda			+	+	+	+
“ <i>pilosa</i> (Hornem.) Lindb.			+			
“ <i>rupestris</i> Nees			+			
<i>Reboulia hemisphaerica</i> (L.) Raddi	+	+	+	+	+	+
MARCHANTIACEAE.						
<i>Conocephalum conicum</i> (L.) Dumort.	+	+	+	+	+	+
<i>Lunularia cruciata</i> (L.) Dumort.	+		+	+	+	+
<i>Marchantia polymorpha</i> L.	+	+	+	+	+	+
<i>Preissia quadrata</i> (Scop.) Nees	+	+	+	+	+	+
RICCARDIACEAE.						
<i>Metzgeria conjugata</i> Lindb.	+	+	+	+	—	+
“ <i>crassipilis</i> (Lindb.) Evans			+	+		+
“ <i>furcata</i> (L.) Dumort.	+	+	+			+
“ <i>pubescens</i> (Schrank) Raddi	+	+	+			
<i>Pallavicinia Flotowiana</i> (Nees) Lindb.	+	+	+	+		+
“ <i>Lyellii</i> (Hook.) S. F. Gray	+	+	+	+	+	+
<i>Riccardia latifrons</i> Lindb.	+	+	+	+	+	+
“ <i>multifida</i> (L.) S. F. Gray	+	+	+	+	+	+
“ <i>palmata</i> (Hedw.) Carruth.	+	+	+	—	—	+
“ <i>pinguis</i> (L.) S. F. Gray	+	+	+	+	+	+
“ <i>sinuata</i> (Dicks.) Lindb.				+	+	+
PELLIACEAE.						
<i>Blasia pusilla</i> L.	+	+	+	+	+	+
<i>Fossombronia brasiliensis</i> Steph.					—	+

	Me.	N. H.	Vt.	Mass.	R. I.	Conn.
PELLIACEAE						
<i>Fossombronia cristula</i> Aust.				+		+
“ <i>foveolata</i> Lindb.	+	+	+	+	+	+
“ <i>Wondraczekii</i> (Corda) Dumort.		+	+	+		+
<i>Pellia epiphylla</i> (L.) Corda	+	+	+	+	+	+
“ <i>Fabroniana</i> Raddi		+	+			+
“ <i>Neesiana</i> (Gottsche) Limpr.	+	+	+	+		+
CALOBRYACEAE.						
<i>Scalia Hookeri</i> (Lyell) S. F. Gray		+				
LOPHOZIACEAE.						
<i>Chiloscyphus fragilis</i> (Roth) Schiffn.	+	+		+		+
“ <i>pallescens</i> (Ehrh.) Dumort.	+	+	+	+	+	+
“ <i>polyanthos</i> (L.) Corda	+	—	—	—	—	+
“ <i>rivularis</i> (Schrad.) Loeske	+	+	+	+	+	+
<i>Geocalyx graveolens</i> (Schrad.) Nees	+	+	+	+	+	+
<i>Gymnomitrium concinnatum</i> (Lightf.) Corda	+	+				
“ <i>corallioides</i> Nees	+	+				
<i>Harpanthus Flotowianus</i> Nees		+				
“ <i>scutatus</i> (Web. & Mohr) Spruce	+	+	+	+	+	+
<i>Jamesoniella autumnalis</i> (DC.) Steph.	+	+	+	+	+	+
<i>Jungermannia cordifolia</i> Hook.	+	+	+			+
“ <i>lanceolata</i> L.	+	+	+	+	—	+
“ <i>pumila</i> With.	+	+	+	+	—	+
“ <i>sphaerocarpa</i> Hook.	+	+				
<i>Lophocolea alata</i> Mitt.				+		+
“ <i>bidentata</i> (L.) Dumort.	—		—	+	—	+
“ <i>heterophylla</i> (Schrad.) Dumort.	+	+	+	+	+	+
“ <i>minor</i> Nees	+	+	+	+	+	+
<i>Lophozia alpestris</i> (Schleich.) Evans	+	+	+	+		+
“ <i>attenuata</i> (Mart.) Dumort.	+	+	+	+		+
“ <i>badensis</i> (Gottsche) Schiffn.		+	+			+
“ <i>barbata</i> (Schmid.) Dumort.	+	+	+	+		+
“ <i>bicrenata</i> (Schmid.) Dumort.	+	+	+	+	+	+
“ <i>confertifolia</i> Schiffn.	+	+	+			
“ <i>excisa</i> (Dicks.) Dumort.	+	+			+	+
“ <i>Floerkii</i> (Web. & Mohr) Schiffn.		+	+			
“ <i>grandiretis</i> (Lindb.) Schiffn.			+			
“ <i>Hatcheri</i> (Evans) Steph.	+	+				
“ <i>heterocolpa</i> (Thed.) M. A. Howe	+	+	+			
“ <i>incisa</i> (Schrad.) Dumort.	+	+	+	+	—	+
“ <i>inflata</i> (Huds.) M. A. Howe	+	+	+	+		+
“ <i>Kaurini</i> (Limpr.) Steph.	+	+	+			
“ <i>Kunzeana</i> (Hüben.) Evans	+	+				

	Me.	N. H.	Vt.	Mass.	R. I.	Conn.
LOPHOZIACEAE.						
<i>Lophozia longidens</i> (Lindb.) Macoun	+	+	+			+
“ <i>longiflora</i> (Nees) Schiffn.	+	+				
“ <i>lycopodioides</i> (Wallr.) Cogn.	+	+				
“ <i>marchica</i> (Nees) Steph.	+	+	+			+
“ <i>Mildeana</i> (Gottsche) Schiffn.	+	+	+	+	+	+
“ <i>obtusa</i> (Lindb.) Evans	+					
“ <i>porphyroleuca</i> (Nees) Schiffn.	+	+	+	+		+
“ <i>quinquedentata</i> (Huds.) Cogn.	+	+	+			+
“ <i>ventricosa</i> (Dicks.) Dumort.	+	+	+	+	—	+
<i>Marsupella aquatica</i> (Lindenb.) Schiffn.	+	+				
“ <i>emarginata</i> (Ehrh.) Dumort.	+	+	+	+		+
“ <i>sparsifolia</i> (Lindb.) Dumort.		+				
“ <i>sphacelata</i> (Gieseke) Dumort.		+	+			
“ <i>Sullivantii</i> (DeNot.) Evans	+	+	+	+		+
“ <i>ustulata</i> (Hüben.) Spruce	+	+				
<i>Mylia anomala</i> (Hook.) S. F. Gray	+	+	+	+	—	+
“ <i>Taylori</i> (Hook.) S. F. Gray	+	+	+			
<i>Nardia crenulata</i> (Sm.) Lindb.	+	+	+	+	+	+
“ <i>crenuliformis</i> (Aust.) Lindb.				+		+
“ <i>fossombronioides</i> (Aust.) Lindb.						+
“ <i>geoscyphus</i> (DeNot.) Lindb.	+	+		+		+
“ <i>hyalina</i> (Lyell) Carringt.	+	+	+	+		+
“ <i>obovata</i> (Nees) Lindb.	+	+	+			
“ <i>obscura</i> Evans	+	+	+	+		+
“ <i>scalaris</i> (Schrad.) S. F. Gray	+					
<i>Pedinophyllum interruptum</i> (Nees) Schiffn.						+
<i>Plagiochila asplenioides</i> (L.) Dumort.	+	+	+	+	+	+
“ <i>Austini</i> Evans		+	+			+
<i>Sphenolobus exsectaeformis</i> (Breidl.) Steph.	+	+	+			+
“ <i>exsectus</i> (Schmid.) Steph.	+	+	+	+		+
“ <i>Hellerianus</i> (Nees) Steph.	+	+	+	+	—	+
“ <i>Michauxii</i> (Web. f.) Steph.	+	+	+	+		+
“ <i>minutus</i> (Crantz) Steph.	+	+	+	+		

CEPHALOZIELLACEAE.

<i>Cephaloziella bifida</i> (Schreb.) Schiffn.	+		+	+		+
“ <i>byssacea</i> (Roth) Warnst.	+	+	+	+		+
“ <i>elachista</i> (Jack) Schiffn.	+	+	+	+	+	+
“ <i>Hampeana</i> (Nees) Schiffn.	+	+	+	+	+	+
“ <i>myriantha</i> (Lindb.) Schiffn.	+	+	+	+	+	+
“ <i>papillosa</i> (Douin) Schiffn.				+		+
“ <i>spinicaulis</i> Douin						+
“ <i>Sullivantii</i> (Aust.) Evans	+	+		+		

	Me.	N. H.	Vt.	Mass.	R. I.	Conn.
CEPHALOZIACEAE.						
<i>Bazzania denudata</i> (Torr.) Trevis.	+	+	+	+		+
“ <i>tricrenata</i> (Wahlenb.) Trevis.	+	+	+			
“ <i>trilobata</i> (L.) S. F. Gray	+	+	+	+	+	+
<i>Calypogeia fissa</i> (L.) Raddi	+	+		+		
“ <i>Neesiana</i> (Massal. & Carest.) K. Müll.	+	+	+	+		+
“ <i>paludosa</i> Warnst.	+	+	+	+	+	+
“ <i>sphagnicola</i> (Arn. & Perss.) Warnst. & Loeske	+	+	+			+
“ <i>suecica</i> (Arn. & Perss.) K. Müll.	+	+	+			+
“ <i>Sullivantii</i> Aust.	+	+		+	+	+
“ <i>Trichomanis</i> (L.) Corda	+	+	+	+	+	+
<i>Cephalozia bicuspidata</i> (L.) Dumort.	+	+	+	+		+
“ <i>catenulata</i> (Hüben.) Spruce	+	+	+	+	—	+
“ <i>connivens</i> (Dicks.) Lindb.	+	+	+	+	+	+
“ <i>curvifolia</i> (Dicks.) Dumort.	+	+	+	+	+	+
“ <i>fluitans</i> (Nees) Spruce	+	+	+	+	+	+
“ <i>Francisci</i> (Hook.) Dumort.	+	+		+		
“ <i>Loitlesbergeri</i> Schiffn.		+				+
“ <i>Macounii</i> Aust.	+	+				
“ <i>macrostachya</i> Kaal.	+	+	+	+	+	+
“ <i>media</i> Lindb.	+	+	+	+	+	+
“ <i>pleniceps</i> (Aust.) Lindb.	+	+	+			+
<i>Lepidozia reptans</i> (L.) Dumort.	+	+	+	+	+	+
“ <i>setacea</i> (Web.) Mitt.	+	+	+	+		+
“ <i>sylvatica</i> Evans	+	—		+	+	+
<i>Odontoschisma denudatum</i> (Mart.) Dumort.	+	+	+	+	—	+
“ <i>elongatum</i> (Lindb.) Evans	+	+				
“ <i>prostratum</i> (Sw.) Trevis.				+	+	+
PTILIDIACEAE.						
<i>Anthelia Juratzkana</i> (Limpr.) Trevis.		+				
<i>Blepharostoma trichophyllum</i> (L.) Dumort.	+	+	+	+		+
<i>Ptilidium ciliare</i> (L.) Nees	+	+	+	+	—	+
“ <i>pulcherrimum</i> (Web.) Hampe	+	+	+	+	+	+
<i>Temnoma setiforme</i> (Ehrh.) M. A. Howe	+	+	+			
<i>Trichocolea tomentella</i> (Ehrh.) Dumort.	+	+	+	+	+	+
SCAPANIACEAE.						
<i>Diplophyllum albicans</i> (L.) Dumort.	+					
“ <i>apiculatum</i> (Evans) Steph.	+		+	+	+	+
“ <i>gymnostomophilum</i> Kaal.	+		+			
“ <i>taxifolium</i> (Wahlenb.) Dumort.	+	+	+	+		+
<i>Scapania apiculata</i> Spruce	+	+				
“ <i>convexula</i> K. Müll.	+					
“ <i>curta</i> (Mart.) Dumort.	+	+	+	+		+

	Me.	N. H.	Vt.	Mass.	R. I.	Conn.
SCAPANACEAE.						
<i>Scapania dentata</i> Dumort.	+	+	+	+		+
“ <i>glaucocephala</i> (Tayl.) Aust.		+	+			
“ <i>hyperborea</i> Jörgensen	+	+				
“ <i>irrigua</i> (Nees) Dumort.	+	+	+			+
“ <i>nemorosa</i> (L.) Dumort.	+	+	+	+	+	+
“ <i>Oakesii</i> Aust.	+	+	+			
“ <i>paludicola</i> Loeske & K. Müll.	+	+	+			+
“ <i>paludosa</i> K. Müll.	+	+	+			+
“ <i>subalpina</i> (Nees) Dumort.	+	+				
“ <i>umbrosa</i> (Schrad.) Dumort.	+	+				
“ <i>undulata</i> (L.) Dumort.	+	+	+	+	+	+
RADULACEAE.						
<i>Radula complanata</i> (L.) Dumort.	+	+	+	+	+	+
“ <i>obconica</i> Sulliv.	+		+	+		+
“ <i>tenax</i> Lindb.	+	+	+	+	—	+
PORELLACEAE.						
<i>Porella pinnata</i> L.	+	+	+	+	+	+
“ <i>platyphylla</i> (L.) Lindb.	+	—	+	—	—	+
“ <i>platyphylloidea</i> (Schwein.) Lindb.	+	+	+	+	+	+
LEJEUNEACEAE.						
<i>Cololejeunea Biddlecomiae</i> (Aust.) Evans	+	+	+	+	—	+
<i>Frullania Asagrayana</i> Mont.	+	+	+	+	+	+
“ <i>Brittoniae</i> Evans	+	+	+	+	+	+
“ <i>eboracensis</i> Gottsche	+	+	+	+	+	+
“ <i>inflata</i> Gottsche						+
“ <i>Oakesiana</i> Aust.	+	+	+			
“ <i>plana</i> Sulliv.					—	+
“ <i>riparia</i> Hampe		+	+	—		+
“ <i>saxicola</i> Aust.						+
“ <i>Selwyniana</i> Pears.	+	+	+			
“ <i>squarrosa</i> (R. Bl. & N.) Dumort.					—	+
“ <i>Tamarisci</i> (L.) Dumort.	+			+		+
<i>Jubula pennsylvanica</i> (Steph.) Evans	+	+	+	+	—	+
<i>Lejeunea cavifolia</i> (Ehrh.) Lindb.	+	+	+	+	—	+
“ <i>patens</i> Lindb.	+					+
<i>Leucolejeunea clypeata</i> (Schwein.) Evans		+		+		+
“ <i>unciloba</i> (Lindenb.) Evans					+	
ANTHOCEROTACEAE.						
<i>Anthoceros carolinianus</i> Michx.						+
“ <i>crispulus</i> (Mont.) Douin		+	+	+		+
“ <i>laevis</i> L.	+	+	+	+	+	+
“ <i>Macounii</i> M. A. Howe	+	+				+
“ <i>punctatus</i> L.	+	—	—	+		+
<i>Notothyas orbicularis</i> (Schwein.) Sulliv.	+	+	+	+	—	+

NOTES ON THE PRECEDING LIST.

It will be seen that this Second Revised List includes 196 species, a gain of 19, or nearly 11 per cent. over the first Revised List. From Maine 151 species are now reported, a gain of nearly 23 per cent.; from New Hampshire, 154 species, a gain of about 18 per cent.; from Vermont, 137 species, a gain of nearly 26 per cent.; from Massachusetts, 121 species, a gain of nearly 25 per cent.; from Rhode Island, 82 species, a gain of about 6 per cent.; from Connecticut, 147 species, a gain of nearly 10 per cent.; and from all six states, 67 species, a gain of about 28 per cent. The increases during the last ten years are naturally less striking than those between 1903 and 1913 (see RHODORA 15: 26).

The list includes the following additions to local state floras, made during 1923: *Riccardia latifrons* for Rhode Island, the record being based on specimens collected by the writer at Westerly; *Pellia Neesiana* for Vermont, based on specimens collected by Miss Lorenz at Ripton; and *Lejeunea patens* for Connecticut, based on specimens collected by Miss Lorenz at Thomaston. The writer has likewise collected *Riccardia multifida*, *Chiloscyphus pallescens*, *Harpanthus scutatus* and *Cephalozia curvifolia* at Westerly, so that the Rhode Island records for these species are now given the + sign.

If the Second Revised List is compared with the first a number of differences become apparent. Some of these represent additions and others changes in names, the latter being largely due to modifications in the interpretation of genera and species. For the sake of convenience the differences between the lists are summarized below, with references to the Notes, the Roman numeral in each case indicating the number in the series and the Arabic numeral the page.

ADDITIONS: *Riccia Frostii* (XIV, 264); *Clevea hyalina* (XI, 62); *Grimaldia rupestris* (XI, 64, as *Neesiella rupestris*); *Fossombronina cristula* (XII, 107); *Scalia Hookeri* (XIV, 266); *Harpanthus Flotowianus* (XIV, 268); *Lophocolea alata* (XII, 111); *Lophozia grandiretis* (XI, 63); *Nardia fossombronioides* (XVI, 281); *N. obscura* (XV, 159); *Cephaloziella spinicaulis* (XII, 117); *Bazzania denudata* (XVII, 89); *Calypogeia fissa* (XIV, 271); *Cephalozia Loitlesbergeri* (XV, 168); *C. macrostachya* (XII, 114); *Diplophyllum gymnostomophilum* (XI, 71); *Scapania hyperborea* (XVI, 282); *S. Oakesii* (XIII, 75); *S. paludicola* (XIII, 77); *Porella platyphylloidea* (XIII, 109); *Lejeunea patens* (XVII, 97).

CHANGES OF NAMES: *Ricciella crystallina*, *R. fluitans*, *R. membranacea* and *R. Sullivantii* (of the first Revised List) are replaced in the genus *Riccia* (XVII, 74); *Neesiella pilosa* and *N. rupestris* are included in the genus *Grimaldia* (XVII, 75); *Fossombronia salina* is superseded by *F. brasiliensis* (XVII, 75); *Plagiochila Sullivantii* (of list) is now *P. Austini* (XI, 68); *Calypogeia tenuis* is now *C. paludosa* (XII, 119); *Cephalozia serriflora* again becomes *C. catenulata* (XII, 112); *Diplophyllia albicans*, *D. apiculata* and *D. taxifolia* are placed in the genus *Diplophyllum* (XI, 74); *Scapania gracilis* (of list) is included under *S. nemorosa* (XIII, 75); *Porella rivularis* (of list) is included under *P. platyphylla* (XII, 109).

YALE UNIVERSITY.

NOTES ON *TRIOSTEUM PERFOLIATUM* AND RELATED SPECIES.

K. M. WIEGAND.

FOR many years the *Triosteums* of Central New York have given trouble to botanists. In 1918 the writer described a variety from this region (var. *glaucescens*, RHODORA xx. 116) but this did not entirely solve the difficulty. Two large and thrifty patches of the smooth-leaved type were found nearly 25 miles apart in which some individuals had broadly perfoliate leaves while the leaves of others in the same patch were entirely separate at the base. A careful comparison of various features of the leaves, flowers, and fruits, character by character, showed absolutely no other difference. These perfoliate-leaved plants could scarcely be interpreted as hybrids of *T. perfoliatum* and *T. aurantiacum* as only one other collection of plants with perfoliate leaves has been made in the entire basin of Cayuga Lake. This perplexing situation has led to a study of the whole group at the Gray Herbarium and through several seasons at Ithaca.

In his original paper on *T. aurantiacum* Bicknell¹ gave twenty-five differences between *T. perfoliatum* and *T. aurantiacum*. In this paper *T. perfoliatum* was said to differ from the latter species as follows: (1) the principal leaves strongly perfoliate instead of separate;

¹ Torrey a. i. 25 (1901).